

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number  
**WO 2005/003156 A1**

(51) International Patent Classification<sup>7</sup>: **C07K 14/31**,  
A61P 35/00

(21) International Application Number:  
PCT/SE2004/001049

(22) International Filing Date: 30 June 2004 (30.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0301987-4 4 July 2003 (04.07.2003) SE  
0400275-4 9 February 2004 (09.02.2004) SE

(71) Applicant (for all designated States except US): **AFFI-  
BODY AB** [SE/SE]; Box 20137, S-161 02 Bromma (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CARLSSON**,  
Jörgen [SE/SE]; Karlsrogatan 50, S-752 39 Uppsala  
(SE). **STÅHL**, Stefan [SE/SE]; Rådmansgatan 4, 5tr,

S-114 25 Stockholm (SE). **ERIKSSON**, Tove [SE/SE];  
Malmgårdsvägen 20, S-116 38 Stockholm (SE). **GUN-  
NERIUSSON**, Elin [SE/SE]; Ugglevägen 11, S-181 56  
Lidingö (SE). **NILSSON**, Fredrik [SE/SE]; Österlång-  
gatan 20, S-111 31 Stockholm (SE).

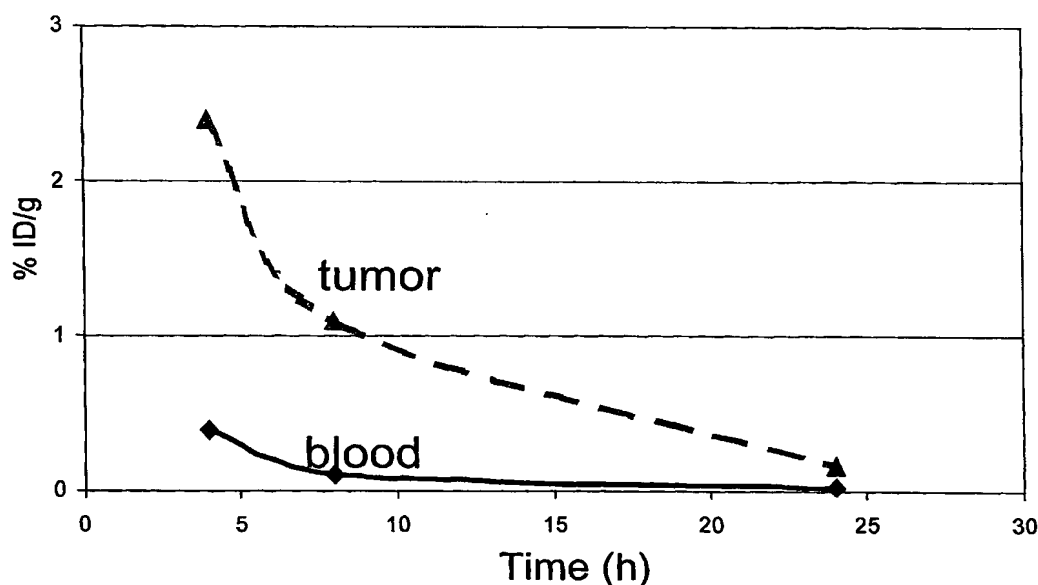
(74) Agent: **AWAPATENT AB**; Box 45086, S-104 30 Stock-  
holm (SE).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: POLYPEPTIDES HAVING BINDING AFFINITY FOR HER2



(57) Abstract: A polypeptide is provided, which has a binding affinity for HER2 and which is related to a domain of staphylococcal protein A (SPA) in that the sequence of the polypeptide corresponds to the sequence of the SPA domain having from 1 to about 20 substitution mutations. Nucleic acid encoding the polypeptide, as well as expression vector and host cell for expressing the nucleic acid, are also provided. Also provided is the use of such a polypeptide as a medicament, and as a targeting agent for directing substances conjugated thereto to cells overexpressing HER2. Methods, and kits for performing the methods, are also provided, which methods and kits rely on the binding of the polypeptide to HER2.



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*